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SUBJECT: TURKMENISTAN: EUROPEAN COMMISSION-FUNDED STUDY ON
TRANS-CASPIAN GAS CORRIDOR CONCLUDES PROJECT WOULD BE
FEASIBLE, WITH CAVEATS

REF: A. ASHGABAT 1252

[1](#)B. ASHGABAT 1297

[1](#)1. (U) Sensitive but unclassified. Not for public Internet.

[1](#)2. (SBU) SUMMARY: The European Commission has concluded from a just completed a study on establishing a gas transit corridor from Kazakhstan to the EU region that the project is feasible. The 400-page feasibility study looked at a variety of options for transiting the Caspian Sea, as well as weighing the various costs of a northern gas corridor through the Black Sea and a southern corridor through Turkey. It concluded that the most cost-effective option would be an all-pipeline option carrying 50 billion cubic meters (bcm) of gas per year from the Central Asia-Center pipelines at Beynau, Kazakhstan under the Caspian and Black Seas to European terminals, but caveated that judgment with the recommendation that resolution of the Caspian Sea's international legal status would help ensure the project's stability. The study also looked at potential options involving movement of compressed natural gas, which were also judged feasible. The November 26 decision between Gazprom and Turkmenistan increasing the price of gas by late 2008 to \$150 per thousand cubic meters (tcm) could encourage a November 30 meeting of participants to closely look at these findings. END SUMMARY.

[1](#)3. (SBU) On November 28, the EU-TACIS office in Ashgabat informally passed to the Embassy a copy of a feasibility study requested and funded by the European Commission, entitled "EU Feasibility Study of a Trans-Caspian Black Sea Gas Corridor." The EC hired a joint Consortium -- Mott MacDonald Limited, KLC Law Firm, Kantor Management Consultants and Louis Berger -- to undertake the study to investigate and assess the feasibility of a gas transit corridor from Kazakhstan, across the Caspian Sea to Azerbaijan and Georgia, through the Black Sea region to the

EU. The beneficiaries of the study are Azerbaijan, Georgia and Kazakhstan, though the study also considered the possibility of including Turkmenistan gas into the arrangement at a later date. Embassy has e-mailed the entire document -- approximately 400 pages -- to the Turkmenistan desk officer in SCA/CEN.

¶4. (SBU) The objectives of the study, implemented under the framework of INOGATE ("Energy cooperation between the EU, the littoral states of the Black and Caspian Seas and their neighboring countries"), included:

- To examine non-pipeline options to transit the Caspian Sea, including compressed natural gas (CNG), liquified natural gas (LNG) and liquified petroleum gas (LPG);

- To consider the existing infrastructure from Azerbaijan through Georgia and to investigate whether upgrades or even complete replacement would be necessary;

- To review and analyze all options to transit the Black Sea, including a pipeline and CNG.

In addition to an executive summary, the study contains economic and financial, legal and environmental sections. As noted ref A, the EU expects to discuss the findings of the study in Brussels November 30.

¶5. (SBU) The study's key findings include:

Technical

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- According to preliminary analysis, the most appropriate non-pipeline option is CNG. LPG is inappropriate, since it can not be a substitute for methane except for very small localized volumes.

- After examining a wide range of onshore pipeline options, the study concludes that transportation of 30, 50 and 70 billion cubic meters (bcm) of gas is feasible, including in both onshore and offshore options.

- There appear to be sufficient proven gas reserves in Azerbaijan, Kazakhstan and Turkmenistan to meet the 30 and 50 bcm -- but not the 70 bcm -- scenarios. This analysis took into account existing and likely future export commitments to other countries, including Russia and China.

- A new transit pipeline route is required to deliver 30, 50 and 70 bcm of gas to the European Market.

- New compression, pressure-control and gas purification facilities will be required for pipeline and non-pipeline options.

- The existing Central Asia-Center (CAC) pipelines in Kazakhstan can be used as tie-in points to deliver 15, 30 and 45 bcm of gas across the Caspian Sea.

- Shipyards are available in the Caspian Sea region which could, with modifications, potentially construct CNG and LNG vessels.

- Two underground gas storage facilities in Azerbaijan (Garadag and Galmaz) can be used to store gas for the CNG option or as buffer storage for a pipeline. Both storage facilities require upgrading.

- LNG, although proven technology, will be too costly in terms of both capital and operating costs to provide a viable alternative to a pipeline crossing.

- CNG or its derivative, adsorbed natural gas (ANG), are as

yet unproven for gas transportation across a sea, but could offer a feasible alternative to pipeline gas transport across the Caspian Sea.

-- Rail transportation of any form of natural gas requires too much in the way of logistics, space and investment to be a viable alternative to pipelines.

-- For all the gas volumes examined, both the capital and operational costs to reach Europe via the Black Sea are lower than the onshore route through Turkey.

Legal

-- In legal terms, it has not yet been clearly and unambiguously agreed upon whether the Caspian Sea is a lake or sea. The legal classification of the Caspian Sea depends greatly on geopolitical -- and not purely legal -- factors. And, although the Caspian Sea littoral states agreed to increase economic cooperation at the October 17, 2007 Caspian Summit in Tehran, no agreement was reached on delimitation and associated rights.

-- In the Caspian Sea, each state has already unilaterally started exploration work within its "own" sector, and this could be considered, at least within the respective 12-mile zones, as having established a well-settled customary practice.

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-- Environmental considerations as a legal foundation for the view that all littoral states must agree on the creation of a pipeline -- either genuine or used as a pretext -- could seriously impact projects to construct off-shore pipelines in the Caspian Sea.

-- Construction of a pipeline in the Caspian raises legal questions and is politically sensitive, thereby introducing a degree of uncertainty and advocating the exploration of alternate options, at least until the political and legal situation is further clarified.

-- In the Black Sea, virtually all coastal states in the Black Sea have enacted legislation regarding the extent of their territorial sea, contiguous zone, exclusive economic zone and continental shelf. It follows that an underwater pipeline could be laid within the territorial sea, contiguous zone and exclusive economic zone (and continental shelf) of any of these states.

-- However, in the Black Sea, a number of sea boundaries remain unsettled. Any pipeline across the Black Sea would need to be routed with due consideration for these boundaries and disputed areas.

-- No national law or public international law considerations are believed to impact the laying, operation and maintenance of a submarine pipeline in the Black Sea.

-- In the Bosphorus Straits, the legal regime of the Straits in principle allows the unimpeded transport of LNG-LPG by vessels through them, but poor weather conditions and increasing congestion cause delays resulting in economic loss.

-- Given the likelihood of maritime accidents in the Bosphorus, delays and/or pollution can be expected.

-- Turkey's attempts to gain absolute control over the Straits generate further operational uncertainty over transportation of LNG or LPG by vessels through the Straits.

-- There appear to be no legal "project breakers" from the standpoint of domestic legislation of the states involved.

-- A transportation project involving several states and various modes of transport requires an advanced degree of coordination between its various components and the actors involved. An appropriate institutional platform exists under the INOGATE Umbrella Agreement, to which all the states involved in the project are signatories.

-- Efficiency and effectiveness suggest that a common operator would be required for the envisioned project.

Commercial

-- The study assumed a base cost to European consumers of \$250 per thousand cubic meters (tcm) of gas.

-- Between 45 and 65 bcm per year could be supplied by the three Caspian countries (Azerbaijan, Kazakhstan and Turkmenistan) to European markets from 2015 onwards. This should be sufficient to meet the 30 and 50 bcm, but not the 70 bcm, scenarios.

-- There will be a gas shortfall of between 40 and 80 bcm per year in the EU that could be met by the Caspian countries.

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-- The "delivery point" countries and other potential markets are likely to be able to absorb significant proportions of the 30 and 50 bcm scenarios (40% and 25% respectively) from the outset of the project. The remainder of the gas could be consumed in other EU countries.

-- For each gas corridor -- through either the Black Sea (the "north" corridor) or Turkey (the "south" corridor) -- pipelines throughout the gas transport corridor and the option of using CNG ships for the Caspian Sea segment and pipeline thereafter were the least expensive. These were, therefore, selected for detailed financial analysis.

-- The all-pipeline option always has more attractive netback prices than the CNG scenarios, as it is a cheaper solution and thus has lower tariffs for the same throughput levels.

-- The southern (Turkey) corridor has lower netback prices than the northern (Black Sea) corridor for all comparable scenarios due to its higher investment costs.

-- The most "competitive" transport routes (from most to least competitive) are:

- o All-pipeline option, 50 bcm, northern corridor (netback price=\$162/tcm of gas)
- o All-pipeline option, 50 bcm, southern corridor (netback price=\$150/tcm)
- o CNG case, 50 bcm, northern corridor (netback price=\$144/tcm)
- o All-pipeline option, 30 bcm, northern corridor (netback price=\$139/tcm)
- o CNG case, 50 bcm, southern corridor (netback price=\$135/tcm)
- o All-pipeline option, 30 bcm, southern corridor (netback price=\$117/tcm)
- o CNG case, 30 bcm, northern corridor (netback price=\$112/tcm)

-- The CNG 30 bcm scenario for the southern gas corridor appears to be uncompetitive.

LPG

-- The main destination markets for Kazakhstan and Azerbaijan are likely to be those of Turkey, Central/Eastern Europe and possibly the south Asian markets. Turkmenistan is likely to continue exporting mainly to markets in its region (primarily Iran and Afghanistan) but is also likely to seek other export

outlets.

-- With an FOB Black Sea price of \$450/ton, Kazakh and Turkmen LPG producers can achieve a netback price of \$337/ton. The netback price for Azeri producers is \$395/ton.

Environmental -----

-- Given the size and nature of the potential developments, environmental and social impacts are inevitable. Both onshore and offshore routes will present significant environmental challenges, which may be manageable. The cost implications of appropriate mitigations may impact the overall economic feasibility of the project.

-- Given the environmental sensitivity of the area and public concerns about energy installations, the highest environmental, social and safety standards will have to be met or bettered.

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-- Gas transmission will require large amounts of energy with a high cost and carbon footprint. A sensitivity analysis on the 50 bcm case gave a fuel cost range from \$100-200 million/year, and a shadow carbon values range from \$47-235 million/year.

-- Using offshore single point moorings (SPMs) instead of jetties allow shipping to be segregated, which is safer and prevents unacceptable crowding of shipping or marine infrastructure. If future work shows that SPMs are not viable, there is plenty of land available on both shores for alternative sites, but few sheltered marine locations.

-- On the Black Sea coast in Georgia and Romania, there is less land and much more tourist activity, so suitable sites for plant and pipeline landfalls are scarcer, but there may be suitable locations near Supsa and to the south of Constanta.

-- Further work is required to determine the extent of water as a limiting factor on large LNG regasification plants, because of the environmental impacts of thermal pollution and possible damage to plankton, fish larvae and juvenile fish. This work should also look at turning these threats into opportunities by filtering the plankton biomass and using it as a feedstock -- perhaps for aquaculture. Likewise, it may be possible to use heat loss from regasification as a cooling medium for freezer plant.

-- Air cooling has been specified for intermediate pipeline compressor stations. Further work is required to see if sea water cooling may be used for plants with access to large quantities of water.

-- From a scientific perspective, there are no apparent environmental or safety barriers that should prevent the construction of offshore gas pipelines in the Black Sea or the Caspian Sea.

16. (SBU) Although the consortium laid out a number of risks and recommended that resolving the Caspian Sea's international legal status would help cut the risks to laying a subsea pipeline, it nonetheless concluded that the concept of a gas corridor is feasible. Key next steps include:

-- Resolution, if possible, of the legal/political impasse over the status of the Caspian Sea, as a pipeline crossing remains the most cost-effective solution for transporting natural gas.

-- Detailed study of the underlying cost estimates and the feasibility of the use of CNG ships for transporting large volumes of gas.

-- Coordination of efforts and sharing of information with other parties that are considering the feasibility of supplying Europe with Caspian gas (NOTE: i.e., the United States. END NOTE.).

-- The commitment of the various project stakeholders and the establishment of an operational framework and procedures to progress to a detailed feasibility study.

-- Clarification of the business concept and the roles, contributions and undertakings of the various parties.

-- The development of the commercial and legal arrangements to ensure that the project can attract financing from international financial institutions and other financiers.

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17. (SBU) COMMENT: Promising as this evidence is that the EU is finally beginning to focus on a viable energy policy, it still has a long way to go if it is to bring this project from this first step to fruition. As the European Commission moves ahead with efforts to gain EU buy-in to the proposal, time will remain of the essence. Indeed, the November 26 news that Gazprom and Turkmenistan have agreed to raise gas prices to \$150/tcm by the end of 2008 (and that Gazprom is planning on passing on the higher cost to consumers, rather than decrease its own profit margin) undermines somewhat the study's basic assumptions -- that any price over \$100/tcm is competitive, and that a pipeline will enable Europeans to keep the base price they pay as consumers to \$250/tcm.
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